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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/813,886

03/31/2004

Ligang Zhang

026-0047

5768

22120 7590 01/10/2008  
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EXAMINER

IM, JUNGHWAN M

ART UNIT

PAPER NUMBER

2811

MAIL DATE

DELIVERY MODE

01/10/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/813,886

Applicant(s)

ZHANG ET AL.

Examiner

Junghwa M. Im

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2,4-8,10-19,23,46 and 55-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,4-8,10-19,23,46 and 55-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 30, 2007 has been entered.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 23, 55 and 57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 23 recites the limitation "...and wherein individual ones of the plurality of electrically conductive links are coupled to each other at least at a second location within the aperture by an electrically conductive link links within the aperture." It is confusing if an electrically conductive link is one of a plurality of electrically conductive links extending across the aperture or not. And it is confusing to understand how a plurality of electrically conductive links extending across the aperture coupling to the enclosure can be coupled to each other at a second location within the aperture by the same electrically conductive link within the aperture.

It appears that claim 55 recites the limitation depicting the different embodiment recited for claim 23.

Claim 57 is dependant on the rejected base claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2, 7, 23, 46 and 56 are rejected under 35 U.S.C. 102(b) as being anticipated by Andrews (US 5959522).

Regarding claim 23, insofar as understood, Fig. 2 of Andrews shows an apparatus comprising:

an inductor (140);

an electrically conductive enclosure (142) electromagnetically shielding the inductor, the electrically conductive enclosure having an aperture (156) at least as large as the inductor, the aperture being substantially centered around a projected surface of the inductor; and

one or more electrically conductive links extending across the aperture and electrically coupled to the electrically conductive enclosure,

wherein individual ones of the electrically conductive links are coupled to each other by an electrically conductive link perpendicular to the individual ones of the electrically conductive links.

Regarding claim 2, Fig. 2 of Andrews shows the aperture is substantially parallel to a plane of current flow in the inductor.

Regarding claim 7, Fig. 2 of Andrews the electrically conductive links are formed in the one or more traditional integrated circuit layers.

Regarding claim 46, Fig. 2 of Andrews shows the aperture is formed in an electrically conductive plate.

Regarding claim 56, Fig. 2 of Andrews shows that the electrically conductive link within the aperture intersects each of the individual ones of the plurality of electrically conductive links at ninety degree angles.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-6 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews.

Regarding claim 4, Fig. 2 of Andrews would show the electrically conductive links reduce an effect of electromagnetic signals external to the electrically conductive enclosure on the inductor since the device in Fig. 2 of Andrews would have substantially the similar structure to the one recited in the instant invention.

Regarding claim 5, Fig. 2 of Andrews fails to show the electrically conductive links reduce coupling in the inductor from external sources by approximately 6dB. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the electrically conductive links reducing the coupling in the inductor from external sources by approximately 6dB in order to accommodate the circuit parameters, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 6, Fig. 2 of Andrews fails to show the electrically conductive links are approximately 5 um wide. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the electrically conductive links are approximately 5 um wide to meet the required specification, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 55, Fig. 2 of Andrews shows most aspects of the instant invention except that “wherein the aperture has an approximate diameter determined by adding an approximate outer diameter of the inductor to an approximate inner diameter of the inductor.” However, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the size of the aperture determined by adding an approximate outer diameter of the inductor to an approximate inner diameter of the inductor in order to accommodate the design specification, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claims 8 and 10-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews in view of Gomez et al., (US 6847282), hereinafter Gomez.

Regarding claim 8, Fig. 2 of Andrews fails to show that the electrically conductive enclosure includes a top plate, a bottom plate, and sidewalls. Fig. 5 of Gomez shows the electrically conductive enclosure includes a top plate, a bottom plate, and sidewalls (col. 8, lines 5-19). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teachings of Gomez into the device of Andrews in order to have the electrically conductive enclosure includes a top plate, a bottom plate, and sidewalls to enhance the shielding,

Regarding claim 10, Fig. 2 of Andrews shows the aperture is formed in the bottom plate.

Regarding claim 11, Fig. 6B of Gomez shows the bottom plate is formed in one or more integrated circuit metal layers that are formed on the integrated circuit die.

Regarding claim 12, Fig. 5 of Gomez shows the top plate is formed in a metal layer formed on the integrated circuit die.

Regarding claim 13, Gomez discloses the top plate/metal layer is formed in a redistribution layer that are formed on the integrated circuit die (col. 3, lines 28-38).

Regarding claim 14, Gomez discloses that the top plate is formed in a package substrate (col. 3, lines 28-38).

Regarding claim 15, Fig. 7 of Gomez shows that the inductor (of the connecting portions) is formed at least partially in one or more metal layers of an integrated circuit die thicker than others of the metal layers.

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Regarding claims 16 and 17, Gomez discloses that the inductor is formed at least partially in one or more redistribution layers formed on an integrated circuit die (col. 3, lines 28-38).

Regarding claim 18, the combination of Andrews/Gomez fails to show a conductor forming the inductor is 10  $\mu\text{m}$  wide. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to have a conductor forming the inductor is 10  $\mu\text{m}$  wide to accommodate the required specification, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 19, the combination of Andrews/Gomez fails to show the aperture and the inductor are effectively spaced at least 10.25  $\mu\text{m}$  apart. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the aperture and the inductor are effectively spaced at least 10.25  $\mu\text{m}$  apart in order to accommodate the required specification, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

### ***Response to Arguments***

Applicant's arguments with respect to pending claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

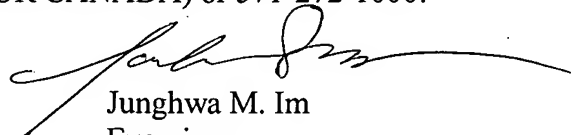


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Junghwa M. Im whose telephone number is (571) 272-1655. The examiner can normally be reached on MON.-FRI. 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne A. Gurley can be reached on (571) 272-1670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Junghwa M. Im  
Examiner  
Art Unit 2811

jmi  
8/28/2007